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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,000	02/18/2004	Moris Dovek	HT03-005	2422

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EXAMINER	
KLIMOWICZ, WILLIAM JOSEPH	
ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/781,000	DOVEK ET AL.	
	Examiner	Art Unit	
	William J. Klimowicz	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 19-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 19-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Status

Claims 1-6 and 18-24 are currently pending.

Claims 7-18 and 25-36 have been voluntarily cancelled by the Applicant.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 19-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Carpenter et al. (WO 98/20485 A1).

As per claims 1 and 19, Carpenter et al. (WO 98/20485 A1) discloses a crosstalk and EME (electromagnetic emission) minimizing trace suspension assembly structure (16) and a method thereof, comprising: multiple write lines (e.g., 60, 62) which are crossed between a preamplifier connection point (at 54) and slider contact pads (22) (e.g., see, *inter alia*, page 7, line 12-23 and page 8, lines 20-29); multiple read lines (e.g., 60, 62 - see in particular page 8, lines 21-25) driven by pre-amplifier circuits (including 54); the aforementioned slider contact pads (22), which connect said write lines (60, 62) to said trace suspension assembly (16); the aforementioned slider contact pads (22), which connect said read lines (another set of service lines (60, 62) to said trace suspension assembly (16); and multiple write line driven by

preamplifier circuits (at 54 via the semiconductor IC chip), wherein said multiple write lines which are crossed between said preamplifier connection point and said slider contact pads are used to cancel out time-delayed (transmission line effects) parts of said crosstalk and said EME.

As per claims 2 and 20, wherein a crossing point of said write lines between said preamplifier connection point and said slider contact pads (22) is placed halfway between said preamplifier connection point and said slider contact pads (e.g., the multiple twisted wire effect of the traces allows at least one crossing point "halfway").

As per claims 3 and 21, wherein said crossing point of said write line (60, 62) is made by the addition of a second metallization layer (e.g., 60A or 62A) onto said trace suspension assembly (16).

As per claims 4 and 22, wherein multiple crossing points of said write lines are used to further cancel out time-delayed (transmission line effects) parts of said crosstalk and EME (based on the crossover structure of the lines (60, 62)).

As per claims 5 and 23, wherein said write lines (60, 62) have parasitic capacitance between the write lines and the read lines (another set of service lines (60, 62), due to the intrinsic metal-dielectric-metal structure)..

As per claims 6 and 24, wherein said parasitic capacitances between the write lines (60, 62) and read lines other set of service lines, 60, 62) are used to cancel crosstalk noise between said write lines and said read lines due to the effective "twisting" structure of the traces.

Response to Arguments

Applicant's arguments filed October 16, 2006 have been fully considered but they are not persuasive.

The Applicant states at page 11-12 of the Amendment & Response filed on October 16, 2006:

> The instant application's objective and advantage is to reduce crosstalk and EME, which is the reduction of the transmission of noise interference from the trace assembly to other electronic units outside of the trace assembly as well as the reduction of the transmission of noise interference to internal sections of the trace assembly. Structurally, the instant application solves the above stated problem by using a way "to cross the R+ and R- lines halfway in the suspension, such that all the crosstalks equally add to the R+ and R- lines canceling out the total effect disregarding any transmission line effects", as stated in the paragraph beginning on line 15 of page 10 of the instant application. The stated objective of Carpenter et al. is "providing reduced susceptibility to electromagnetic interference and stray signal pickup". Structurely, Carpenter solves its stated objective above by using, "a twisted wire transmission pair in order to provide self-shielding of one or multiple signal pairs against unwanted electromagnetic noise (EMI) or radio frequency interference (RFI). Therefore, the instant application and Carpenter use different structures to solve different problems. In summary, the instant application solves the problem of preventing interference from the trace assembly itself from interfering with units outside of the trace assembly, while Carpenter solves the problem of protecting the trace assembly from interference from sources outside of the trace assembly. The title of Carpenter et al. contains the words "self-shielding". Therefore, based on the amendment above to independent claims 1 and 19, which clearly states the advantage of the instant application, claims 1 and 19 and their dependent claims should be allowed over Carpenter et al.

The Examiner respectfully disagrees based on the claims as presently drafted and the disclosure of Carpenter et al. (WO 98/20485 A1) as a whole. More specifically, as structurally set forth in the claimed invention (independent claims 1 and 19), Carpenter et al. (WO 98/20485 A1) discloses a trace suspension assembly structure (16) including multiple write lines (e.g., 60, 62) which are crossed between a preamplifier connection point (at 54) and slider contact pads

(22) (e.g., see, *inter alia*, page 7, line 12-23 and page 8, lines 20-29); multiple read lines (e.g., 60, 62 - see in particular page 8, lines 21-25) driven by pre-amplifier circuits (including 54), The aforementioned slider contact pads (22) connect the write lines (60, 62) to the trace suspension assembly (16). The aforementioned slider contact pads (22) connect the read lines (another set of service lines (60, 62) to the trace suspension assembly (16). The multiple write lines are driven by preamplifier circuits (at 54 via the semiconductor IC chip), wherein the multiple write lines which are crossed between said preamplifier connection point and the slider contact pads are used structured to cancel out time-delayed (transmission line effects) parts of the crosstalk and the EME.

More specifically, as set forth in Carpenter et al. (WO 98/20485 A1), e.g., see page 4, lines 35-36; page 8, lines 13-15, the structure of Carpenter et al. (WO 98/20485 A1) *not only* provides a self-shielding effect from external electromagnetic noise, but also minimizes crosstalk associated with signal lines of the trace suspension. As is well known in the field of electrical theory, crosstalk is an electromagnetic phenomenon where the noise of one electrical conductor or trace travels to another nearby electrical conductor or trace without any direct connection. The non-direct coupling results from the electromagnetic emission from the electromagnetic energy emanating from each trace. Clearly, and unambiguously, not only does Carpenter et al. (WO 98/20485 A1) identically disclose the claimed structure, but such identical structure functions to identically achieve the claimed functionality as set forth in the claims of the instant application.

Moreover still, it has been held that the mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim to distinguish

over the prior art. Furthermore, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed invention may, in fact, be an inherent characteristic of the prior art, it possess the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. *In re Swinehart*, 169 USPQ 226 (CCPA 1971). See also *In re Ludtke*, 169 USPQ 563 (1971), wherein it was held that when the only alleged distinction between the applicants' claims and reference is recited functional language, it is incumbent upon the applicants', when challenged, to show that the device disclosed by the reference does not actually possess such characteristics. Additionally, as set forth in *In re Best*, 195 USPQ 430, 433 (CCPA 1977), the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (571) 272-7577. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

William J. Klimowicz
Primary Examiner
Art Unit 2627

WJK